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PRESCORE PACKAGE

~~SI~~ **STAGE**
PA

Site Name:	Larry Landry Dump
EPA ID#:	LAD985169804
TDD#:	F-06-8910-34
City:	Intracoastal City, Louisiana
County:	Vermillion Parish
Site Evaluation:	Thomas A. Lensing, Jr.
Date:	January 2, 1990

Name: Thomas A. Lensing, Jr. **Location:** Intracoastal City, LA

Site Name: Larry Landry Dump

Date: January 2, 1990

PHASE II FIELD TESTING PROJECT

REVISED HRS SCORESHEET

~~SSI~~ **STAGE**

INSTRUCTIONS

The recommended overall data collection strategy during the SSI is to refine/verify/augment desktop data collected during the PA, obtain all non-sampling field data, and focus sampling efforts on verifying or limiting "critical" revised HRS factors values. Therefore, during PreScore at the SSI stage, you should be able to refine the preliminary and projected HRS scores for a site based on more accurate and comprehensive site specific information. The preliminary and projected scores for a site should begin to converge toward the "representative" site score. It is important to keep in mind that, as with PreScore at the PA stage, it is the projected HRS score that will be the principle mechanism which determines if a site will go on to an LSI or be recommended for "No Further Remedial Action Planned" under the Federal CERCLA program.

The attached scoresheets are part of the deliverable package for each site involved in the SSI stage of Phase II. During PRESCORE, you should document the preliminary and projected assigned value for each revised HRS factor and subfactor. For each projected HRS value, check one of the three boxes in the "Data Type" column to categorize the type of data used to document that value. Table Values should not be used during PRESCORE at the SSI stage.

H: Hard Data - Data that would satisfy formal HRS quality assurance requirements. This type of data is usually obtained from independent, defensible sources and requires little or no interpretation. A check in this column indicates that data collection for the factor is complete and will require no further investigation.

E: Estimated Data - Reasonable approximation based on the judgment of the SSI investigator. A check in this column indicates that the factor requires further investigation for LSI candidate sites.

D: Database - Data obtained from online database sources (e.g., GEMS).

Provide a reference for each value in the "Raw Data/Reference" column. Also, at a minimum, please complete the calculation tables following each pathway. Waste quantity worksheets provided by MITRE during the June 14th Project Orientation program are included to aid waste quantity calculations. Use the blank sheets to document calculations that were performed or assumptions that were made. For factors which do not require extensive calculations, enter the actual data in the "Raw Data/Reference" column.

SSI PRESCORE SCORESHEETS
SUMMARY SCORESHEET FOR COMPUTING S_m

PRELIMINARY HRS SCORE
DRAFT

	S pathway	S^2 pathway
Air Migration Pathway Score (S_a)	6.23	38.81
Ground Water Migration Pathway Score (S_{gw})	10.01	100.20
Surface Water Migration Pathway Score (S_{sw})	70.75	5,005.56
Onsite Exposure Pathway Score (S_{os})	0	0
$S^2_a + S^2_{gw} + S^2_{sw} + S^2_{os}$		5,144.57
$(S^2_a + S^2_{gw} + S^2_{sw} + S^2_{os})/4$		1,286.14
$\sqrt{(S^2_a + S^2_{gw} + S^2_{sw} + S^2_{os})/4}$		35.87

PROJECTED HRS SCORE
DRAFT

	S pathway	S^2 pathway
Air Migration Pathway Score (S_a)	6.23	38.81
Ground Water Migration Pathway Score (S_{gw})	53.61	2,874.03
Surface Water Migration Pathway Score (S_{sw})	74.87	5,605.51
Onsite Exposure Pathway Score (S_{os})	0	0
$S^2_a + S^2_{gw} + S^2_{sw} + S^2_{os}$		8,518.35
$(S^2_a + S^2_{gw} + S^2_{sw} + S^2_{os})/4$		2,129.58
$\sqrt{(S^2_a + S^2_{gw} + S^2_{sw} + S^2_{os})/4}$		46.14

PHASE II FIELD TESTING AIR MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors	Max Value	Preliminary HRS Value Assigned	Projected HRS Value Assigned	Data Type H	Data Type E	Data Type D	Data Type T	References / Comments
LIKELIHOOD OF RELEASE								
1. OBSERVED RELEASE	450	0	0		x			No sample data
2. POTENTIAL TO RELEASE	390	150	150					
Source Containment	3	3	3	x				See comment #2
Gas	3	3	3	x				Ref. 1, p. 26; Photographs 4, 5 & 10
Particulate	3	3	3	x				Ref. 1, p. 28; Photographs 4, 5 & 10
Source Type	80	40	40	x				Photographs 3, 4, 5, 6 & 10
Source Mobility	50	10	10	x				Ref. 1, p. 39
Gas	3	0	0				x	Ref. 1,
Particulate	3	1	1	x				Ref. 1, p. 35
3. LIKELIHOOD OF RELEASE (Higher of lines 1 or 2)	450	150	150	x				See calculations
WASTE CHARACTERISTICS								
4. TOXICITY/MOBILITY	100	67	67					Ref. 1, p. 48
Toxicity	5	5	5	x			x	Ref. 1, Ref. 7
Mobility	3	1	1	x				Ref. 1, p. 35
5. HAZARDOUS WASTE QUANTITY	100	10	10		x			See Source Waste Quantity Worksheet
6. WASTE CHARACTERISTICS (Lines 4+5)	200	77	77		x			See calculations
TARGETS								
7. MEI	50	4	4	x				Ref. 1, p. 58; Ref. 2
8. POPULATION	235	0.138	0.138		x			See calculations #8
9. LAND USE	10	10	10		x			See calculations #9
10. SENSITIVE ENVIRONMENTS	100	100	100	x				See calculations #10
11. TARGETS (Lines 7+8+9+10)	235	114.13	114.13	x				See calculations #11
12. PATHWAY SCORES (S_a) [Lines 3x6x11)/2.115 x 10^5]	100	6.23	6.23	x				See calculations #12

BF042 (Revised 8/19/88)

Calculations: In the space below, document all assumptions, estimates and calculations involved in assigning a projected HRS value.

2. Source containment was given a score of 3 because they are open, unsealed or nonintact containers (Photographs 4, 5 and 10).

3. Source containment (source type + source mobility) = Potential to Release
(3)(40 + 10) = 150

4.

	Acute Toxicity	Chronic Noncarcinogenic Toxicity	Carcinogenicity
Barium	0	2	0
Cadmium	2	4	5
Chromium	0	3	5
Lead	0	5	0
Zinc	0	1	0

Toxicity = 5

6. 67 + 10 = 77

8. $PI = \frac{1}{100} \sum_{i=1}^{8} Di\ Pi$

$= \frac{1}{100} [(0)(5.265)+(1.0)(0)+(0.1751)(23.84)+(0.0517)(95.36)+(0.0171)(199.66)$

$+ (0.0083)(104.3)+(0.0054)(86.42)]$

$= \frac{1}{100} (0+)+4.17+4.93+3.41+0.865+0.466)$

$= 0.138$

Residents were counted from a U.S.G.S. Topographic Map, multiplying the number of households times the most recent U.S. census figure of residents per household for Vermillion Parish.

9. $L = \sum_{i=1}^{6} Di\ Vi$

$= (5)(0.1751)+(8)(0.1751)+(10)(10)+(5)(0)+(7)(1)+(5)(1)$

$= .875 + 1.40 + 0 + 5 + 7 + 5$

$= 14.27$

10. $ES = \frac{1}{10} \sum_{i=1}^{n} Di\ Si$

$\frac{1}{10} [(1.0)(75)+(1.0)(75)]$

$\frac{1}{10}\ 750 + 750$

$= 150$

Calculations: In the space below, document all assumptions, estimates and calculations involved in assigning a projected HRS value.

11. $4 + 0.138 + 10 + 100 = 114.13$

12. $\frac{(150)(77)(114.13)}{211500} = 6.23$

PHASE II FIELD TESTING GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors	Max Value	Preliminary HRS Value Assigned	Projected HRS Value Assigned	Data Type H	Data Type E	Data Type D	Data Type T	References / Comments
LIKELIHOOD OF RELEASE								
1. OBSERVED RELEASE	500	0	500					Ref. 3, p. 8, ρ 1; Ref. 7
2. POTENTIAL TO RELEASE								
a. Containment	10	10	10	x				Photograph 5
b. Net Precipitation	10	6	6					Ref. 12, p. 20. See comment #2
c. Depth to Aquifer/Hydraulic Conductivity	35	6	6	x				Ref. 3, p. 28
Depth to Aquifer	7							
Hydraulic Conductivity	3							
d. Sorptive Capacity	5	1	1	x				Ref. 1, p. 90; Ref. 3, p. 28
e. Potential to Release [Lines ax(b+c+d)]	500	130	130	x				See calculations
3. LIKELIHOOD OF RELEASE (Higher of lines 1 or 2e)	500	130	130					
WASTE CHARACTERISTICS								
4. TOXICITY/MOBILITY	100	100	100					Ref. 1, p. 97
Toxicity	5	5	5				x	Ref. 1,
Mobility	3	3	3	x				Ref. 1, p. 96; Cadmium & zinc score 3
5. HAZARDOUS WASTE QUANTITY	100	10	10		x			
6. WASTE CHARACTERISTICS (Lines 4+5)	200	110	110		x			See calculations
TARGETS								
7. MEI	50	44	44	x				Ref. 2; Figure 1
8. POPULATION								
a. Level I Concentrations	200	0	0	x				
b. Level II Concentrations	200	0	0		x			See comment and calculations
c. Level III Concentrations	200	0	0		x			

PHASE II FIELD TESTING GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors	Max Value	Preliminary HRS Value Assigned	Projected HRS Value Assigned	Data Type H	Data Type E	Data Type D	Data Type T	References / Comments
d. Potential Contamination	200	1.01	0		x			See calculations
e. Population (Lines a+b+c+d, maximum of 200)	200	1.01	50.96					
9. GROUND WATER USE								
a. Drinking Water Use	50	25	40		x			Residential well survey
b. Other Water Use	20	20	20	x				Ref. 5
c. Ground Water Use (Lines a+b, maximum of 50)	50	45	50					
10. SOLE SOURCE AQUIFER	50	50	50	x				Ref. 8
11. TARGETS (Lines 7+8e+9c+10, maximum of 200)	200	140.01	194.96	x				See calculations
GROUND WATER MIGRATION PATHWAY SCORE								
12. AQUIFER SCORE [(Lines 3x6x11)/$2x10^5$]	100	10.01	53.61					See calculations
13. **PATHWAY SCORE (S_{gw})** (Highest value from Line 12 for all aquifers evaluated)	100	10.01	53.61					

Calculations: In the space below, document all assumptions, estimates and calculations involved in assigning a projected HRS value.

2. Net precipitation: The net precipitation value used was from the location closest to the site.

2d. Sorbent content $\sum_{i=1}^{n} SCi \frac{Ti}{100}$

$= (64)\ \frac{(200)}{(100)}$

$= 128$

2e. $(10)(6+6+1) = 130$

6. $100 + 10 = 110$

8b. Analysis of ground water sampling on-site has revealed the following oil and grease -3275 ppm; barium - 1950 ppm; cadmium- 4 ppm; chromium-227 ppm; lead-133 ppm; zinc-276 ppm.

$\frac{3275}{1,000,000} \times 100 = .327\%$ oil and grease

$\frac{1950}{1,000,000} \times 100 = .195\%$ barium

Level II concentrations for observed release

Number of people within 4 miles (residents obtained by house count on topographic map x number of people per household is 2.98).

$\frac{509.56}{10} = 50.96$

8d. $PC = \frac{1}{100} \sum_{i=1}^{n} Pi\ Di$

$= \frac{1}{100}$ [(0)(1.00)+(0.62)(23.84)+(0.32)(95.36)+(0.18)(199.6)+(0.13)
+(104.3)+(0.08)(86.42)]

$= \frac{1}{100}$ [0+14.78+30.51+35.93+13.56+6.91)

$= 1.01$

9c. Prelim 25 + 20 = 45

Proj 40 + 20 = 60

11. Prelim. 44 + 1.1 +45 + 50 = 140.01

Proj 44 + 50.96 + 50 + 50 = 194.96

12. Prelim $\frac{(130)(110)(140.01)}{200000} = 10.01$

Proj $\frac{(500)(110)(194.96)}{200000} = 53.61$

PHASE II FIELD TESTING SURFACE WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors	Max Value	Preliminary HRS Value Assigned	Projected HRS Value Assigned	Data Type H	Data Type E	Data Type D	Data Type T	References / Comments
DRINKING WATER THREAT								
LIKELIHOOD OF RELEASE								
1. OBSERVED RELEASE	120	0	120					Ref. 7. See comment
2. POTENTIAL TO RELEASE BY OVERLAND FLOW								
a. Containment	10	10	10	x				Photographs 1, 2, 3, 4, 10
b. Runoff	6	4	4					
Rainfall	10	10	10	x				Ref. 10
Runoff Curve Number	100	90	90	x				Ref. 5
Drainage Area	3	1	1	x				Ref. 2
c. Distance to Surface Water	6	5	5	x				Photograph 1
d. Potential to Release by Overland Flow (Lines ax(b+c))	120	90	90	x				See calculations
3. POTENTIAL TO RELEASE BY FLOOD								
a. Containment (Flood)	10	10	10		x			Ref. 6
b. Flood Frequency	12	5	5	x				Ref. 4
c. Potential to Release by Flood (Lines axb)	120	50	50	x				See calculations #3c
4. POTENTIAL TO RELEASE (Lines 2d+3c, maximum of 120)	120	120	120					
5. LIKELIHOOD OF RELEASE (Higher of lines 1 or 4)	120	120	120					
WASTE CHARACTERISTICS								
6. TOXICITY/PERSISTENCE	100	100	100	x				
Toxicity	5	5	5				x	
Persistence	3	3	3					Default value for all surface water bodies
7. hazardous waste quantity	100	10	10					

PHASE II FIELD TESTING SURFACE WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors	Max Value	Preliminary HRS Value Assigned	Projected HRS Value Assigned	Data Type				References / Comments
				H	E	D	T	
8. WASTE CHARACTERISTICS (Lines 6+7)	200	110	110					See calculations #8
TARGETS								
9. MEI	50	0	0		x			See comment #9
10. POPULATION								
a. Level I Concentrations	200	0	0	x				
b. Level II Concentrations	200	0	0	x				
c. Level III Concentrations	200	0	0	x				
d. Potential Contamination	200	0	0	x				
e. Population (Lines a+b+c+d, maximum of 200)	200	0	0					
11. SURFACE WATER USE								
a. Drinking Water Use	50	0	5		x			
b. Other Water Use	20	10	20		x			See comment #11b
c. Surface Water Use (Lines a+b)	50	10	25	x				See calculations #11c
12. TARGETS (Lines 9+10e+11c, maximum of 200)	200	10	25	x				See calculations #12
DRINKING WATER THREAT SCORE								
13. DRINKING WATER THREAT (Lines 5x8x12)	4.8×10^6	132,000	330,000	x				See calculations #13
HUMAN FOOD CHAIN THREAT								
LIKELIHOOD OF RELEASE								
14. LIKELIHOOD OF RELEASE (Same value as Line 5)	120	120	120					
WASTE CHARACTERISTICS								

PHASE II FIELD TESTING SURFACE WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors	Max Value	Preliminary HRS Value Assigned	Projected HRS Value Assigned	Data Type H	Data Type E	Data Type D	Data Type T	References / Comments
15. TOXICITY/PERSISTENCE	100	60	60					
Toxicity	5	1	1				x	See comment #15
Persistence	3	3	3					Default for all surface water bodies
16. HAZARDOUS WASTE QUANTITY	100	10	10					
17. WASTE CHARACTERISTICS (Lines 15+16)	200	70	70	x				See calculations #17
TARGETS								
18. POPULATION								
a. Potential Contamination	200	200	200	x				
Bioaccumulation Value	6	6	6				x	See comment #18, Ref. 10
Production Value	8	3	3				x	Default value for LA estuaries
b. Actual Contamination	200	0	0					
c. Population (Lines a+b, maximum of 200)	200	200	200	x				
19. FISHERY USE	50	0	30		x			See comment #19
20. TARGETS (Lines 18c+19, maximum of 200)	200	200	230	x				
HUMAN FOOD CHAIN THREAT SCORE								
21. HUMAN FOOD CHAIN THREAT (Lines 14x17x20)	4.8×10^6	1,680,000	1,932,000	x				
HUMAN RECREATION THREAT								
LIKELIHOOD OF RELEASE								
22. LIKELIHOOD OF RELEASE (Same value as Line 5)	120							
WASTE CHARACTERISTICS								

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PHASE II FIELD TESTING SURFACE WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors	Max Value	Preliminary HRS Value Assigned	Projected HRS Value Assigned	Data Type H	Data Type E	Data Type D	Data Type T	References / Comments
23. TOXICITY/PERSISTENCE	100							
Toxicity	5							
Persistence	3							
24. HAZARDOUS WASTE QUANTITY	100							
25. WASTE CHARACTERISTICS (Lines 23+24)	200							
TARGETS								
26. POPULATION								
a. Actual Contamination (Highest value assigned to any recreation area, maximum of 200)	200							
Recreation Use	7							
Dose Adjusting Factor	6							
b. Potential Contamination (Highest value assigned to any recreation area, maximum of 200)	200							
c. Population (Higher of values on Lines a or b)	200							
27. TARGETS (Value from Line 26c)	200							
HUMAN RECREATION THREAT SCORE								
28. HUMAN RECREATION THREAT (Lines 22x25x27)	4.8×10^6							
ENVIRONMENTAL THREAT								
LIKELIHOOD OF RELEASE								
29. LIKELIHOOD OF RELEASE (Same value as Line 5)	120	120	120					

BF042 (Revised 8/19/88)

PHASE II FIELD TESTING SURFACE WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors	Max Value	Preliminary HRS Value Assigned	Projected HRS Value Assigned	Data Type H	Data Type E	Data Type D	Data Type T	References / Comments
WASTE CHARACTERISTICS								
30. ECOSYSTEM TOXICITY/PERSISTENCE	100	100	100					
Ecosystem Toxicity	5	5	5				x	See comment #30, Ref. 10
Persistence	3	3	3					Default value for metals in S.W.
31. HAZARDOUS WASTE QUANTITY	100	10	10					
32. WASTE CHARACTERISTICS (Lines 30+31)	200	110	110	x				
TARGETS								
33. SENSITIVE ENVIRONMENTS								
a. Level I Concentrations	120	0	0					
b. Level II Concentrations	120	0	0					
c. Potential Contamination	120	120	120	x				See calculations #33c
d. Sensitive Environments (Lines a+b+c, maximum of 120)	120	120	120					
34. TARGETS (Value from Line 33d)	120	120	120					
ENVIRONMENTAL THREAT SCORE								
35. ENVIRONMENTAL THREAT (Lines 29x32x34)	2.88×10^6	1,584,000	1,584,000	x				
SURFACE WATER MIGRATION PATHWAY SCORE FOR A WATERSHED								
36. WATERSHED SCORE [(Lines 13+21+28+35)/48,000, maximum of 100)	100	70.75	74.87	x				See calculations
SURFACE WATER MIGRATION PATHWAY SCORE		70.75	74.87					

BF042 (Revised 8/19/88)

PHASE II FIELD TESTING SURFACE WATER MIGRATION PATHWAY SCORESHEET

Factor Categories and Factors	Max Value	Preliminary HRS Value Assigned	Projected HRS Value Assigned	Data Type				References / Comments
				H	E	D	T	
37. **PATHWAY SCORE (S_{sw})** (Sum of scores from Line 36 for all watersheds evaluated, maximum of 100)	100	70.75	74.87					

Calculations: In the space below, document all assumptions, estimates and calculations involved in assigning a projected HRS value.

1. Analysis of a surface water sample collected from the marsh at the southeast corner of the site was only analyzed for salt and pH. More extensive analysis could document an observed release. Photograph #1 shows the site's location to surface water.

2d. 10(4+5) = 90

3c. 10 x 5 = 50

4. 90 + 50 = 140, maximum score used 120.

8. 100 + 10 = 110

9. There are no surface water intakes within the target distance limit.

11a. The water is not currently used, but there is no information available that deemed the water unusable without treatment.

11b. The Vermillion River and Vermillion Bay are used for shipping. The river could be used for livestock watering due to the number of farms in the area.

11c. Prelim. - 0 + 10 = 10
Proj. - 5 + 20 = 25

12. Prelim. - 0 + 0 + 10 = 10
Proj. - 0 + 0 + 25 = 25

13. Prelim. - (120)(110)(10) = 132,000
Proj. - (120)(110)(25) = 330,000

15. Since zinc has the highest bioaccumulation potential, this metal is used for toxicity/persistence.

17. 60 + 10 = 70

18. Bioaccumulation Potential - barium - 9; cadmium - 2150; chromium-192; lead-2570; zinc-23820

19. No fishery use was documented during off-site reconnaissance, but sport/recreation fishing could occur.

20. Prelim. 6 + 0 = 6
Proj. 6 + 30 = 36

21. Prelim. - (120)(70)(200) = 1,680,000
Proj. - (120)(70)230) = 1,932,000

Calculations: In the space below, document all assumptions, estimates and calculations involved in assigning a projected HRS value.

30.

	Chronic Water Quality	Acute Water Quality	LC50
Barium	Not Available	Not Available	Not Available
Cadmium	1.1	1.1	Not Available
Chromium	0.29	0.29	Not Available
Lead	3.2	3.2	Not Available
Zinc	86	86	Not Available

Chromium value of 0.29 is used for a score of 5.

32. 100 + 10 = 110

33c.

$$SP = \frac{1}{10} \sum_{i=1}^{n} SiDi$$

$$= \frac{1}{10} [(75)(10)+(75)(10)+(75)(10)]$$

$$= \frac{1}{10} (2250)$$

$$= 225$$

Sensitive environments used are wetlands, habitat known to be used by endangered or threatened species and state wildlife refuge within target distance limit (Ref. 2; Ref. 11).

33d. 0 + 0 + 120 = 120

35. (120)(110)(120) = 1,584,000

36. Prelim. - 132,000 + 1,680,000 + 0 + 1,584,000 = $\frac{3396000}{48000}$ = 70.75

Proj. - 330,000 + 1680000 + 0 + 1,584,000 = $\frac{3594000}{48000}$ = 74.87

PHASE II FIELD TESTING ONSITE EXPOSURE PATHWAY SCORESHEET

Factor Categories and Factors	Max Value	Preliminary HRS Value Assigned	Projected HRS Value Assigned	Data Type				References / Comments
				H	E	D	T	
RESIDENT POPULATION THREAT								
1. LIKELIHOOD OF RELEASE	100	0	0					
2. WASTE CHARACTERISTICS	5							
Toxicity	5							
3. TARGETS								
a. High Risk Population	100							
b. Total Resident Population	100							
c. Terrestrial Sensitive Environments	25							
d. Targets (Lines a+b+c, maximum of 100)	100							
4. RESIDENT POPULATION THREAT (Lines 1x2x3d)	$5x10^4$							
NEARBY POPULATION THREAT								
5. LIKELIHOOD OF EXPOSURE								
a. Waste Quantity	100	0	0					See comment 5a
b. Accessibility/Frequency of Use	100	50	50	x				See comment 5b
c. Likelihood of Exposure (Value from Table 5-5)	100	0	0					
6. WASTE CHARACTERISTICS	5	5	5					
Toxicity	5	5	5	x				Ref. 7
7. TARGETS								
a. Nearby Population	100	3.57	3.57	x				See calculation 7a
8. NEARBY POPULATION THREAT (Lines 5cx6x7a)	$5x10^4$	0	0	x				
9. **PATHWAY SCORE** (S_{os}) (Lines [4+8]/500, maximum of 100)	100	0	0					

Calculations: In the space below, document all assumptions, estimates and calculations involved in assigning a projected HRS value.

5a. Waste quantity calculation on worksheet represents a lower value than the lowest assigned value on Table 5-3 of the user's manual.

5b. During FIT off-site reconnaissance, the FIT could not even get to the property boundary because a gate was locked on the only access road about 1000 feet away from the site. There were "No Trespassing" signs posted also.

7a.

$$pH = \sum_{i=1}^{3} Pi\ Di$$

$$= (0)(0.1)+(0.05)(23.84)+(0.025)(95.36)$$

$$= 0 + 1.19 + 2.38$$

$$= 3.57$$

8. $(0)(5)(3.57) = 0$

PART A	SOURCE WASTE QUANTITY FACTOR WORKSHEET	PAGE: WQ 1 of 7
SOURCE: Larry Landry Dump	PATHWAYS: [X] AIR [X] GROUNDWATER [X] SURFACE WATER [X] ON-SITE	

1. WASTESTREAM QUANTITY SUMMARY TABLE

Complete the following table using all available data for identified wastestreams in the source. All wastestreams which cannot be attributed to a specific source are to be combined into a separate source called "Source Unknown". If you answer YES to (d), skip (e) and (f), but complete (g) and (h). If you have information that a wastestream was deposited into a source, but no waste quantity data are available, check box next to "Unquantifiable Wastestream" entry, write in identifying name and circle NO in columns (d) and (h).

(a) Wastestream Name	(b) Wastestream Hazardous Substance Quantity (lbs.)	(c) WHSQ Value (b)+10	(d) Are Data Complete ?	(e) Wastestream Waste Quantity As Deposited (lbs.)	(f) WWQD Value (e)+50,000	(g) Wastestream Waste Quantity Factor enter LARGER of (c) or (f)	(h) Are Data Complete ?
20 Drums	0	0	YES / NO	10,000	0.2	0.2	YES / NO
			YES / NO				YES / NO
			YES / NO				YES / NO
			YES / NO				YES / NO
Unquantifiable Wastestream(s) [x] ✓ Larry Landry			NO				NO
SOURCE TOTAL (sum of wastestreams) 20 Drums		0	YES* / NO			(sum of (g)) 0.2	YES* / NO

* Circle YES only if ALL of the answers in the column above are YES (and there are no unquantifiable wastestreams).

PART A	SOURCE WASTE QUANTITY FACTOR WORKSHEET	PAGE: WQ 2 of 7
SOURCE: Larry Landry Dump	PATHWAYS: [x] AIR [x] GROUNDWATER [x] SURFACE WATER [x] ON-SITE	

2. SOURCE VOLUME/AREA FACTOR TABLE

If all of your wastestream waste quantity data are complete (Source Total, column (h) above is YES), skip to Table 3.

If any of your wastestream waste quantity data are not complete (any entry in column (h) is NO), then complete the following table.

(a) Source Volume (yds^3) or Source Area* (ft^3)	(b) Source Type	(c) Volume/Area Divisor (see Table 2-14)	(d) Volume/Area Factor Value (a) ÷ (c)
7.15 gallons	Drums	.00143	7.15143

* Use source area ONLY if source volume is not available.

PART A	SOURCE WASTE QUANTITY FACTOR WORKSHEET	PAGE: WQ 3 of 7
SOURCE: Larry Landry Dump	PATHWAYS: [x] AIR [x] GROUNDWATER [x] SURFACE WATER [x] ON-SITE	

3. SOURCE DISPOSAL CAPACITY FACTOR VALUE TABLE

Complete the following table using the data compiled in the tables above.

(a) Source Name	(b) Source Hazardous Substance Quantity Factor Value enter Source Total value from 1(b)	(c) Are Data Complete ?	(d) Source Waste Quantity Factor Value enter Source Total value from 1(g)	(e) Are Data Complete ?	(f) Volume/Area Factor Value enter value from 2(d)	(g) Source Disposal Capacity Factor Value enter LARGER of (b), (d), or (f)
		YES				
		NO		YES		
Drums	0		0.2	NO	7.15143	7.15143

PART B	SITE WASTE QUANTITY FACTOR WORKSHEET	PAGE: WQ 4 of 7
SITE: Larry Landry Dump	PATHWAYS: [X] AIR [X] GROUNDWATER [X] SURFACE WATER	

1. SITE WASTE QUANTITY SUMMARY TABLE

Complete the following table using the data compiled in Table 3 of the PART A worksheet for each of the sources at the site.

(a) Source Name	(b) Source Hazardous Substance Quantity Factor Value enter value from 3(b), Part A for each source	(c) Are Data Complete ?	(d) Source Waste Quantity Factor Value enter value from 3(d), Part A for each source	(e) Are Data Complete ?	(f) Source Disposal Capacity Factor Value enter value from 3(g), Part A for each source
Drums	0	YES		YES	
		NO	0.2	NO	7.15143
		YES		YES	
		NO		NO	
		YES		YES	
		NO		NO	
		YES		YES	
		NO		NO	
SOURCE UNKNOWN		YES			
		NO			
SITE TOTAL (sum of sources)	(0)* 0	YES			
		NO	(10) 0.2	YES	
				NO	(10) 7.15143

* Values in parentheses are the minimum assigned values for the factor.

PART B	SITE WASTE QUANTITY FACTOR WORKSHEET	PAGE: WQ 5 of 17
SITE: Larry Landry Dump	PATHWAYS: [x] AIR [x] GROUNDWATER [x] SURFACE WATER	

2. WASTE QUANTITY FACTOR VALUE

From Table 1 above, select the LARGEST factor value sum from the SITE TOTAL row, columns b, d, and f, as applicable, subject to a maximum of 100 and the minimums indicated. Enter this number below.

Waste Quantity Factor Value
10

PART C	ON-SITE WASTE QUANTITY FACTOR WORKSHEET	PAGE: WQ 6 of 7
SITE: Larry Landry Dump	PATHWAY: ON-SITE	

1. CONTAMINATED SOURCE AREA SUMMARY TABLE

Complete the following table using contaminated area data for each source. If contaminated area data are not available, attach any information that might be useful in deriving a factor value that would serve as a surrogate for contaminated area.

(a) Source Name	(b) Contaminated Area (ft^2)	(c) Contaminated Area Factor Value (b)÷5000	(d) Are Data Complete ?
Drums	45 ft^2	1.75	YES / NO
			YES / NO
			YES / NO
			YES / NO
			YES / NO
SITE TOTAL (sum of sources)	45 ft^2	1.75	YES / NO

PART C	ON-SITE WASTE QUANTITY FACTOR WORKSHEET	PAGE: WQ 7 of 7
SITE: Larry Landry Dump	PATHWAY: ON-SITE	

2. WASTE QUANTITY FACTOR VALUE

Enter the **SITE TOTAL CONTAMINATED AREA FACTOR VALUE** (bottom row, column (c)) from the table above.

Contaminated Area Factor Value
1.75

Calculations: In the space below, document all assumptions, estimates and calculations involved in assigning a projected HRS value.

Part A

1). WWQD $\frac{20 \text{ drums}}{1 \text{ drum}} \mid \frac{500 \text{ lbs}}{} = 10{,}000 \text{ lbs}$

WWQD Value = $\frac{10{,}000}{50{,}000} = 0.2$

2). Chromium will be used as a worst case scenario since it was detected.

a. On-Site

$\frac{20 \text{ drums}}{1 \text{ drum}} \mid \frac{50 \text{ gallons}}{} = 1{,}000$ gallons of waste

Density of chromium = 7.14 g/l

$\frac{7.14 \text{ g}}{1} \mid \frac{4.546 \text{ l}}{\text{gallon}} = \frac{32.458 \text{ g}}{\text{gallon}} \mid \frac{1{,}000 \text{ gallon}}{} = 3.2458\text{g}$

$\frac{32458.9}{454\text{g}} \mid \frac{1 \text{ lb}}{} = 71.557$ lbs chromium

$\frac{71.557 \text{ lbs}}{2000} \mid \frac{200 \text{ gallons}}{} = 7.15$ gallons

c. $\frac{7.15 \text{ gallons}}{5000} = 0.00143$ gallons

d. 7.15 + 0.00143 = 7.15143

Part C

1.

b. Three waste piles encompass approximately 15 feet each (Photographs 2, 3, 4).

$15 \text{ ft}^2 \times 3 = 45 \text{ ft}^2$

c. $\frac{45 \text{ ft}^2}{25.7} = 1.75 \text{ ft}^2$